AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently Amended) A cell search control method by which a mobile station searches for a perch channel transmitted by a base station to capture and receive the perch channel, and determines which base station to communicate with or to be standby for, said cell search control method comprising:

a measuring step of measuring a first receiving quality of each of a plurality of currently captured perch channels [[channel]];

an obtaining step of obtaining a second receiving quality from the first receiving qualities measured by said measuring step; and

a control step of determining a degree of how frequent searches for new perch channels are conducted in response to the second receiving quality obtained ~~measured~~ by said obtaining ~~measuring~~ step.

Claim 2. (Currently Amended) The cell search control method as claimed in claim 1, wherein

said measuring step measures a received power of each of the plurality of currently captured perch channels [[channel]];

said obtaining step obtains, with respect to the received powers measured by said measuring step, the highest received power; and

said control step controls the degree of how frequent searches for new perch channels are conducted in response to the highest received power obtained ~~measured~~ by said obtaining ~~measuring~~ step such that when the highest received power is high, the degree of how frequent

searches for new perch channels are conducted is low, whereas when the highest received power is low, the degree of how frequent searches for new perch channels are conducted is high.

Claim 3. (Currently Amended) The cell search control method as claimed in claim 1, wherein

said measuring step measures a received power of each of the plurality of currently captured perch channels [[channel]];

said obtaining step obtains, with respect to the received powers measured by said measuring step, the ratio of the second highest received power to the highest received power; and

said control step controls the degree of how frequent searches for new perch channels are conducted in response to the ratio obtained ~~of the second highest received power to the highest received power measured~~ by said obtaining ~~measuring~~ step such that when the ratio is high, the degree of how frequent searches for new perch channels are conducted is high, whereas when the ratio is low, the degree of how frequent searches for new perch channels are conducted is low.

Claim 4. (Currently Amended) The cell search control method as claimed in claim 1, wherein

said measuring step measures a received power of each of the plurality of currently captured perch channels **[[channel]]**;

said obtaining step obtains, with respect to the received powers measured by said measuring step, the number of perch channels each of which has a received power whose ratio to the highest received power is greater than a predetermined value; and

said control step controls the degree of how frequent searches for new perch channels are conducted in response to the number of perch channels obtained by said obtaining step ~~with received power whose ratio to the highest received power measured by said measuring step is greater than a predetermined value~~ such that when the number of perch channels is great, the degree of how frequent searches for new perch channels are conducted is high, whereas when the number of perch channels is small, the degree of how frequent searches for new perch channels are conducted is low.

Claim 5. (Currently Amended) The cell search control method as claimed in claim 1, wherein

said measuring step measures a received SIR of each of the plurality of currently captured perch channels [[channel]];

said obtaining step obtains, with respect to the received SIRs measured by said measuring step, the highest received SIR; and

said control step controls the degree of how frequent searches for new perch channels are conducted in response to the highest received SIR obtaining by said obtaining step ~~measured by said measuring step~~ such that when the highest received SIR is high, the degree of how frequent searches for new perch channels are conducted is low, whereas when the highest received SIR is low, the degree of how frequent searches for new perch channels are conducted is high.

Claim 6. (Currently Amended) The cell search control method as claimed in claim 1, wherein

said measuring step measures a received SIR of each of the plurality of currently captured perch channels [[channel]];

said obtaining step obtains, with respect to the received SIRs measured by said measuring step, the ratio of the second highest received SIR to the highest received SIR; and

said control step controls the degree of how frequent searches for new perch channels are conducted in response to the ratio obtained by said obtaining step ~~of the second highest received SIR to the highest received SIR measured by said measuring step~~ such that when the ratio is high, the degree of how frequent searches for new perch channels are conducted is high, whereas when the ratio is low, the degree of how frequent searches for new perch channels are conducted is low.

Claim 7. (Currently Amended) The cell search control method as claimed in claim 1, wherein

said measuring step measures a received SIR of each of the plurality of currently captured perch channels [[channel]];

said obtaining step obtains, with respect to the received SIRs measured by said measuring step, the number of perch channels each of which has a received SIR whose ratio to the highest received SIR is greater than a predetermined value; and

said control step controls the degree of how frequent searches for new perch channels are conducted in response to the number of perch channels obtained by said obtaining step ~~with a received SIR whose ratio to the highest received SIR measured by said measuring step is greater than a predetermined value~~ such that when the number of perch channels is great, the degree of how frequent searches for new perch channels are conducted is high, whereas when the number of perch channels is small, the degree of how frequent searches for new perch channels are conducted is low.

Claim 8. (Currently Amended) The cell search control method as claimed in claim 1, further comprising:

an extracting step of ~~decoding a received perch channel, and~~ extracting transmission power information by receiving and decoding each of the plurality of currently captured perch channels, each of the perch channels [[channel]] including its own transmission power information, wherein

said measuring step measures a received power of each of the plurality of [[a]] currently captured perch channels [[channel]];

said obtaining step calculates a propagation loss between the mobile station and each of base stations that transmit the perch channels by using the received powers measured by said measuring step and the transmission powers of the perch channels with the received powers extracted by said extracting step, and obtains, with respect to the calculated propagation losses, the minimum propagation loss; and

said control step ~~obtains a propagation loss between the mobile station and a base station that transmits the perch channel from the received power measured by said measuring step and the transmission power of the perch channel with the received power extracted by said extracting step, and~~ controls the degree of how frequent searches for new perch channels are conducted in response to the minimum propagation loss obtained by said obtaining step such that when the minimum propagation loss is high, the degree of how frequent searches for new perch channels

are conducted is high, whereas when the minimum propagation loss is low, the degree of how frequent searches for new perch channels are conducted is low.

Claim 9. (Currently Amended) The cell search control method as claimed in claim 1, further comprising:

an extracting step of ~~decoding a received perch channel, and~~ extracting transmission power information by receiving and decoding each of the plurality of currently captured perch channels, each of the perch channels [[channel]] including its own transmission power information, wherein

said measuring step measures a received power of each of the plurality of [[a]] currently captured perch channels [[channel]];

said obtaining step calculates a propagation loss between the mobile station and each of base stations that transmit the perch channels by using the received powers measured by said measuring step and the transmission powers of the perch channels with the received powers extracted by said extracting step, and obtains, with respect to the calculated propagation losses, the ratio of the second minimum propagation loss to the minimum propagation loss; and

said control step ~~obtains a propagation loss between the mobile station and a base station that transmits the perch channel from the received power measured by said measuring step and the transmission power of the perch channel with the received power extracted by said extracting step, and~~ controls the degree of how frequent searches for new perch channels are conducted in response to the ratio the ratio obtained by said obtaining step ~~of the second minimum propagation loss to the minimum propagation loss obtained~~ such that when the ratio is low, the degree of how frequent searches for new perch channels are conducted is high, whereas when the ratio is high, the degree of how frequent searches for new perch channels are conducted is low.

Claim 10. (Currently Amended) The cell search control method as claimed in claim 1, further comprising:

an extracting step ~~of decoding a received perch channel, and~~ extracting transmission power information by receiving and decoding each of the plurality of currently captured perch channels, each of the perch channels [[channel]] including its own transmission power information, wherein

said measuring step measures a received power of each of the plurality of [[a]] currently captured perch channels [[channel]];

said obtaining step calculates a propagation loss between the mobile station and each of base stations that transmit the perch channels by using the received powers measured by said measuring step and the transmission powers of the perch channels with the received powers extracted by said extracting step, and obtains, with respect to the calculated propagation losses, the number of perch channels each of which has a propagation loss whose ratio to the minimum propagation loss is less than a predetermined value; and

said control step ~~obtains a propagation loss between the mobile station and a base station that transmits the perch channel from the received power measured by said measuring step and the transmission power of the perch channel with the received power extracted by said extracting step, and~~ controls the degree of how frequent searches for new perch channels are conducted in response to the number of perch channels obtained by said obtaining step ~~with a propagation loss whose ratio to the minimum propagation loss obtained is less than a predetermined value~~ such that when the number of the perch channels is great, the degree of how frequent searches for new perch channels are conducted is high, whereas when the number of the perch channels is small, the degree of how frequent searches for new perch channels are conducted is low.

Claim 11. (Previously Presented) A cell search control method by which a mobile station searches for a perch channel transmitted by a base station to capture and receive the perch channel, and determines which base station to communicate with or to be standby for, said cell search control method comprising:

a measuring step of measuring transmission power of a signal to be transmitted to the base station that the mobile station currently communicate with or is currently standby for; and

a control step of controlling a degree of how frequent searches for new perch channels are conducted in response to the lowest transmission power measured by said measuring step such that when the lowest transmission power is high, the degree of how frequent searches for new perch channels are conducted is high, whereas when the lowest transmission power is low, the degree of how frequent searches for new perch channels are conducted is low.

Claim 12. (Previously Presented) A cell search control method by which a mobile station searches for a perch channel transmitted by a base station to capture and receive the perch channel, and determines which base station to communicate with or to be standby for, said cell search control method comprising:

a detecting step of detecting a moving speed of the mobile station; and

a controlling step of controlling a degree of how frequent searches for new perch channels are conducted in response to the moving speed detected by said detecting step such that when the moving speed is high, the degree of how frequent searches for new perch channels are conducted is high, whereas when the moving speed is low, the degree of how frequent searches for new perch channels are conducted is low.

Claim 13. (Currently Amended) A mobile station which searches for a perch channel transmitted by a base station to capture and receive the perch channel, and determines which base station to communicate with or to be standby for, said mobile station comprising:

measuring means for measuring a first receiving quality of each of a plurality of currently captured perch channel;

obtaining means for obtaining a second receiving quality from the first receiving qualities measured by said measuring means; and

control means for determining a degree of how frequent searches for new perch channels are conducted in response to the second receiving quality obtained ~~measured~~ by said obtaining ~~measuring~~ means.

Claim 14. (Currently Amended) The mobile station as claimed in claim 13, wherein

said measuring means measures a received power of each of the plurality of currently captured perch channels [[channel]];

said obtaining means obtains, with respect to the received powers measured by said measuring means, the highest received power; and

said control means controls the degree of how frequent searches for new perch channels are conducted in response to the highest received power obtained ~~measured~~ by said obtaining ~~measuring~~ means such that when the highest received power is high, the degree of how frequent

searches for new perch channels are conducted is low, whereas when the highest received power is low, the degree of how frequent searches for new perch channels are conducted is high.

Claim 15. (Currently Amended) The mobile station as claimed in claim 13, wherein

said measuring means measures a received power of each of the plurality of currently captured perch channels [[channel]];

said obtaining means obtains, with respect to the received powers measured by said measuring means, the ratio of the second highest received power to the highest received power; and

said control means controls the degree of how frequent searches for new perch channels are conducted in response to the ratio obtained ~~of the second highest received power to the highest received power measured~~ by said obtaining ~~measuring~~ means such that when the ratio is high, the degree of how frequent searches for new perch channels are conducted is high, whereas when the ratio is low, the degree of how frequent searches for new perch channels are conducted is low.

Claim 16. (Currently Amended) The mobile station as claimed in claim 13, wherein

said measuring means measures a received power of each of the plurality of currently captured perch channels **[[channel]]**;

said obtaining means obtains, with respect to the received powers measured by said measuring means, the number of perch channels each of which has a received power whose ratio to the highest received power is greater than a predetermined value; and

said control means controls the degree of how frequent searches for new perch channels are conducted in response to the number of perch channels obtained by said obtaining step ~~with received power whose ratio to the highest received power measured by said measuring means is greater than a predetermined value~~ such that when the number of perch channels is great, the degree of how frequent searches for new perch channels are conducted is high, whereas when the number of perch channels is small, the degree of how frequent searches for new perch channels are conducted is low.

Claim 17. (Currently Amended) The mobile station as claimed in claim 13, wherein

said measuring means measures a received SIR of each of the plurality of currently captured perch channels [[channel]];

said obtaining means obtains, with respect to the received SIRs measured by said measuring means, the highest received SIR; and

said control means controls the degree of how frequent searches for new perch channels are conducted in response to the highest received SIR obtaining by said obtaining ~~measured by said measuring~~ means such that when the highest received SIR is high, the degree of how frequent searches for new perch channels are conducted is low, whereas when the highest received SIR is low, the degree of how frequent searches for new perch channels are conducted is high.

Claim 18. (Currently Amended) The mobile station as claimed in claim 13, wherein

said measuring means measures a received SIR of each of the plurality of currently captured perch channels [[channel]];

said obtaining means obtains, with respect to the received SIRs measured by said measuring means, the ratio of the second highest received SIR to the highest received SIR; and

said control means controls the degree of how frequent searches for new perch channels are conducted in response to the ratio obtained by said obtaining ~~of the second highest received SIR to the highest received SIR measured by said measuring step~~ means such that when the ratio is high, the degree of how frequent searches for new perch channels are conducted is high, whereas when the ratio is low, the degree of how frequent searches for new perch channels are conducted is low.

Claim 19. (Currently Amended) The mobile station as claimed in claim 13, wherein

said measuring means measures a received SIR of each of the plurality of currently captured perch channels [[channel]];

said obtaining means obtains, with respect to the received SIRs measured by said measuring means, the number of perch channels each of which has a received SIR whose ratio to the highest received SIR is greater than a predetermined value; and

said control means controls the degree of how frequent searches for new perch channels are conducted in response to the number of perch channels obtained by said obtaining means

~~with a received SIR whose ratio to the highest received SIR measured by said measuring step is greater than a predetermined value~~ such that when the number of perch channels is great, the degree of how frequent searches for new perch channels are conducted is high ~~increased~~, whereas when the number of perch channels is small, the degree of how frequent searches for new perch channels are conducted is low.

Claim 20. (Currently Amended) The mobile station as claimed in claim 13, further comprising:

extracting means for ~~decoding a received perch channel, and for~~ extracting transmission power information by receiving and decoding each of the plurality of currently captured perch channels, each of the perch channels [[channel]] including its own transmission power information, wherein

said measuring means measures measures a received power of each of the plurality of [[a]] currently captured perch channels [[channel]];

said obtaining means calculates a propagation loss between the mobile station and each of base stations that transmit the perch channels by using the received powers measured by said measuring means and the transmission powers of the perch channels with the received powers extracted by said extracting means, and obtains, with respect to the calculated propagation losses, the minimum propagation loss; and

said control means ~~obtains a propagation loss between the mobile station and a base station that transmits the perch channel from the received power measured by said measuring means and the transmission power of the perch channel with the received power extracted by said extracting means, and~~ controls the degree of how frequent searches for new perch channels are conducted in response to the minimum propagation loss obtained by said obtaining means such that when the minimum propagation loss is high, the degree of how frequent searches for new perch channels are conducted is high, whereas when the minimum propagation loss is low, the degree of how frequent searches for new perch channels are conducted is low.

Claim 21. (Currently Amended) The mobile station as claimed in claim 13, further comprising:

extracting means for ~~decoding a received perch channel, and for~~ extracting transmission power information by receiving and decoding each of the plurality of currently captured perch channels, each of the perch channels [[channel]] including its own transmission power information, wherein

said measuring means measures a received power of each of the plurality of [[a]] currently captured perch channels [[channel]];

said obtaining means calculates a propagation loss between the mobile station and each of base stations that transmit the perch channels by using the received powers measured by said measuring means and the transmission powers of the perch channels with the received powers extracted by said extracting means, and obtains, with respect to the calculated propagation losses, the ratio of the second minimum propagation loss to the minimum propagation loss; and

said control means ~~obtains a propagation loss between the mobile station and a base station that transmits the perch channel from the received power measured by said measuring means and the transmission power of the perch channel with the received power extracted by said extracting means, and~~ controls the degree of how frequent searches for new perch channels are conducted in response to the ratio the ratio obtained by said obtaining means ~~of the second minimum propagation loss to the minimum propagation loss obtained~~ such that when the ratio is low, the degree of how frequent searches for new perch channels are conducted is high, whereas when the ratio is high, the degree of how frequent searches for new perch channels are conducted is low.

Claim 22. (Currently Amended) The mobile station as claimed in claim 13, further comprising:

extracting means for ~~decoding a received perch channel, and for~~ extracting transmission power information by receiving and decoding each of the plurality of currently captured perch channels, each of the perch channels [[channel]] including its own transmission power information, wherein

said measuring step measures a received power of each of the plurality of [[a]] currently captured perch channels [[channel]];

said obtaining means calculates a propagation loss between the mobile station and each of base stations that transmit the perch channels by using the received powers measured by said

measuring means and the transmission powers of the perch channels with the received powers extracted by said extracting means, and obtains, with respect to the calculated propagation losses, the number of perch channels each of which has a propagation loss whose ratio to the minimum propagation loss is less than a predetermined value; and

said control means ~~obtains a propagation loss between the mobile station and a base station that transmits the perch channel from the received power measured by said measuring means and the transmission power of the perch channel with the received power extracted by said extracting means, and~~ controls the degree of how frequent searches for new perch channels are conducted in response to the number of perch channels obtained by said obtaining means ~~with a propagation loss whose ratio to the minimum propagation loss obtained is less than a predetermined value~~ such that when the number of the perch channels is great, the degree of how frequent searches for new perch channels are conducted is high, whereas when the number of the perch channels is small, the degree of how frequent searches for new perch channels are conducted is low.

Claim 23. (Original) The mobile station as claimed in claim 13, wherein said mobile station monitors paging to itself by intermittent reception in a standby mode.

Claim 24. (Previously Presented) A mobile station which searches for a perch channel transmitted by a base station to capture and receive the perch channel, and determines which base station to communicate with or to be standby for, said mobile station comprising:

measuring means for measuring transmission power of a signal to be transmitted to the base station that the mobile station currently communicate with or is currently standby for; and

control means for controlling a degree of how frequent searches for new perch channels are conducted in response to the lowest transmission power measured by said measuring means such that when the lowest transmission power is high, the degree of how frequent searches for new perch channels are conducted is high, whereas when the lowest transmission power is low, the degree of how frequent searches for new perch channels are conducted is low.

Claim 25. (Original) The mobile station as claimed in claim 24, wherein said mobile station monitors paging to itself by intermittent reception in a standby mode.

Claim 26. (Previously Presented) A mobile station which searches for a perch channel transmitted by a base station to capture and receive the perch channel, and determines which base station to communicate with or to be standby for, said mobile station comprising:

detecting means for detecting a moving speed of the mobile station; and

control means for controlling a degree of how frequent searches for new perch channels are conducted in response to the moving speed detected by said detecting means such that when the moving speed is high, the degree of how frequent searches for new perch channels are conducted is high, whereas when the moving speed is low, the degree of how frequent searches for new perch channels are conducted is low.

Claim 27. (Original) The mobile station as claimed in claim 26, wherein said mobile station monitors paging to itself by intermittent reception in a standby mode.

Claim 28. (Currently Amended) A mobile communications system including a plurality of base stations and a mobile station which searches for perch channels transmitted by the plurality of base stations to capture and receive the perch channels, and determines which base station to communicate with or to be standby for, said mobile station comprising:

measuring means for measuring a first receiving quality of each of a plurality of currently captured perch channel;

obtaining means for obtaining a second receiving quality from the first receiving qualities measured by said measuring means; and

control means for determining a degree of how frequent searches for new perch channels are conducted in response to the second receiving quality obtained ~~measured~~ by said obtaining ~~measuring~~ means.

Claim 29. (Previously Presented) A mobile communications system including a plurality of base stations and a mobile station which searches for perch channels transmitted by the plurality of base stations to capture and receive the perch channels, and determines which base station to communicate with or to be standby for, said mobile station comprising:

measuring means for measuring transmission power of a signal to be transmitted to the base station that the mobile station currently communicate with or is currently standby for; and

control means for controlling a degree of how frequent searches for new perch channels are conducted in response to the lowest transmission power measured by said measuring means such that when the lowest transmission power is high, the degree of how frequent searches for new perch channels are conducted is high, whereas when the lowest transmission power is low, the degree of how frequent searches for new perch channels are conducted is low.

Claim 30. (Previously Presented) A mobile communications system including a plurality of base stations and a mobile station which searches for perch channels transmitted by the plurality of base stations to capture and receive the perch channels, and determines which base station to communicate with or to be standby for, said mobile station comprising:

detecting means for detecting a moving speed of the mobile station; and

control means for controlling a degree of how frequent searches for new perch channels are conducted in response to the moving speed detected by said detecting means such that when the moving speed is high, the degree of how frequent searches for new perch channels are conducted is high, whereas when the moving speed is low, the degree of how frequent searches for new perch channels are conducted is low.